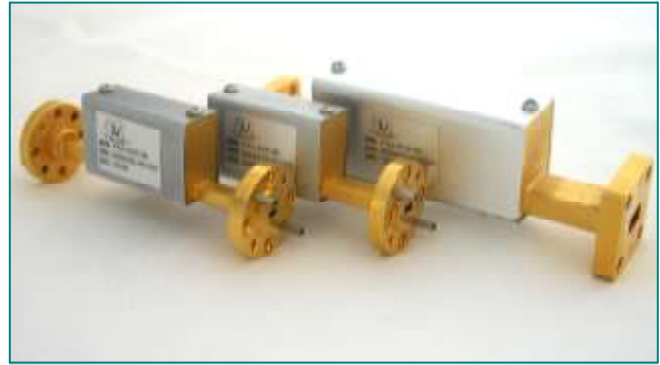


Applications:

- Instrumentation
- Module Assemblies
- Transceivers
- Bench Testing

Features:

- Low Insertion Loss
- Low Return Loss
- 30 dB Maximum Attenuation
- 180° Maximum Phase Shifting



FXA Series



LSA Series



LSP Series

Descriptions:

3J Microwave, Inc. offers a complete line of fixed, level setting attenuators and phase shifters in 8 waveguide bands with full-band operation. 3, 6, 10, 20 and 30 dB attenuation is available for the fixed attenuator. The level setting attenuators feature continuous attenuation adjustment up to 30 dB. Maximum 180° phase shifting is specified for the level setting phase shifter. The level

setting attenuators and phase shifters are designed with tunable micrometer and can be calibrated. They are suitable for the applications of module assemblies, instrumentations, bench testing and transceivers. The products in this category are sorted by: 1) **FXA** Fixed Attenuator; 2) **LSA** Level setting Attenuator; 3) **LSP** Level Setting Phase Shifter.

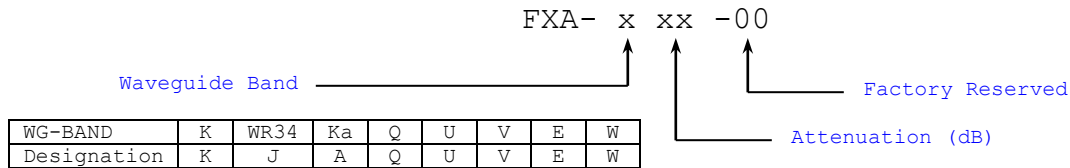


FXA Series Fixed Attenuator Specifications:

Model No.	FXA-xxx-00*							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Flatness (dB)	± 1.5							
Attenuation (dB)	3, 6, 10, 20 and 30 dB							
Attenuation Accuracy (dB)	± 1.0 @ Center Frequency of Waveguide Band							
Return Loss (dB)	-20 dB							
WG Flange	UG595/U	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG385/U	UD387/UM
Outline								

* Please see "how to order" for the model number details

How to Order:



Model No. Example:

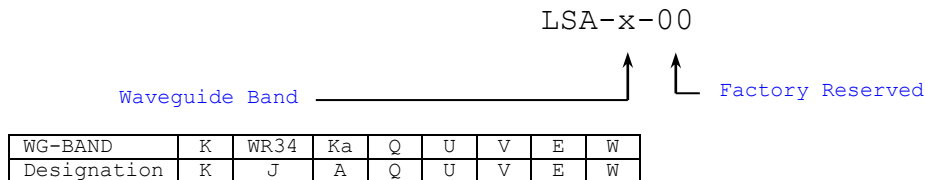
Model Number of a V-Band 10dB Fixed Attenuator:
 FXA-V10-00

LSA Series Level Setting Attenuator Specifications:

Model No.	LSA-x-00*							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Band Width (GHz)	Full Waveguide Band							
I. L. (dB) @ minimum reading	0.2	0.25	0.3	0.4	0.4	0.4	0.6	0.8
Maximum Attenuation (dB)	30							
Frequency Response (dB)	+/- 1.5							
Return Loss (dB)	-20 dB							
WG Flange	UG595/U	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG385/U	UD387/UM
Outline								

* Please see "how to order" for the model number details

How to Order:



Model No. Example:

Model Number of a V-Band Level Setting Attenuator: LSA-V-00



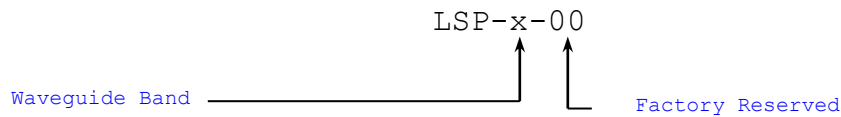
Section 4-8: Fixed, Level Setting Attenuator & Phase Shifter
www.3jmicrowave.com Frequency Coverage: 18 to 110 GHz

LSP Series Level Setting Phase Shifter Specifications:

Model No.	LSP-x-00*							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Band Width (GHz)	Full Waveguide Band							
I. L. (dB) @ minimum reading	0.2	0.25	0.3	0.4	0.4	0.4	0.6	0.8
Minimum Phase Shifting (°)	180							
Frequency Response (°)	+/- 10							
Return Loss (dB)	-15 dB							
WG Flange	UG595/U	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG385/U	UD387/UM
Outline								

* Please see "how to order" for the model number details

How to Order:



WG-BAND	K	WR34	Ka	Q	U	V	E	W
Designation	K	J	A	Q	U	V	E	W

Model No. Example:

Model No. of a V-Band Level Setting Phase Shifter: LSP-V-00

Outlines:

Please see Section 4-11, Page 4-29 for the outline details